Land evaluation: towards an ecological economics of soils

J. R. Olarieta
Dept. Medi Ambient i Ciències del Sòl
Universitat de Lleida. Spain

INDEX

- Whatever happened to LE
- Ideas from the 18-19th century
- National accounting systems
- Monetary evaluation of soils
- Energy value of soils
- The economics of the FAO Framework
- LE as an ecological economics of soils

Whatever happened to LE

Whatever happened to LE

- LE has mostly disappeared from the literature
- Problems detected by the 2007 review of the FF are the result of the **abandonment of the socio-economic context** of LE
- The 2007 review insists on **two errors**:
  - the central role of the suitability concept
  - monetary performance as the main suitability criterion

Whatever happened to LE

- Since 1980s, Ecological Economics has developed a discourse with many similarities to LE:
  - **why have they not met ?**
  - **why has “soil economics” not developed ?**

Ideas from the 18-19th century

Ideas from the 18-19th century

- 18-19th century economists (Smith, Anderson, Ricardo, Marx):
  - differences in “land suitability” as the basis of:
    - formation of rent
    - spatial distribution of land uses
  - failure to recycle organic wastes as a cause of soil degradation

National accounting systems

National accounting systems

- Olazábal (1857):
  - soils should be included in the statistical accounts
  - time-frame for countries vs. time-frame for individuals

- Environmental accounting (Peskin, WB, WRI) (1970-80s):
  - valuation in monetary units

National accounting systems

- Naredo (1987): “Ecointegrative Model” of accounting
  - economic objects need not be measured in monetary units
  - 3 accounts:
    - Accounts of Resource Inventories: soil maps
    - Accounts of Fluxes from Utilization System: inputs/outputs of LUS
    - Accounts of Fluxes of Residues

Monetary evaluation of soils

Monetary evaluation of soils

- Extension of the dominant monetary discourse:
  - oversimplifies soil functions
  - incorrect because of the synergies within the LUS
  - soils as juxtaposition of some chemical elements
  - cannot incorporate the time-frame of soil formation

Energy value of soils

Energy value of soils

- Very few case-studies on soil degradation:
  - cannot incorporate all soil characteristics

The economics of the FAO Framework

- LE as the interplay between:
  - land
  - land use
  - economics
- The economics of the FF:
  - land utilization type (LUT)
  - input/ouptput analysis
  - social-economic-environmental analysis
- Neglected in most cases

Land evaluation as an ecological economics of soils

- Economics as the analysis of how to use resources to satisfy human needs

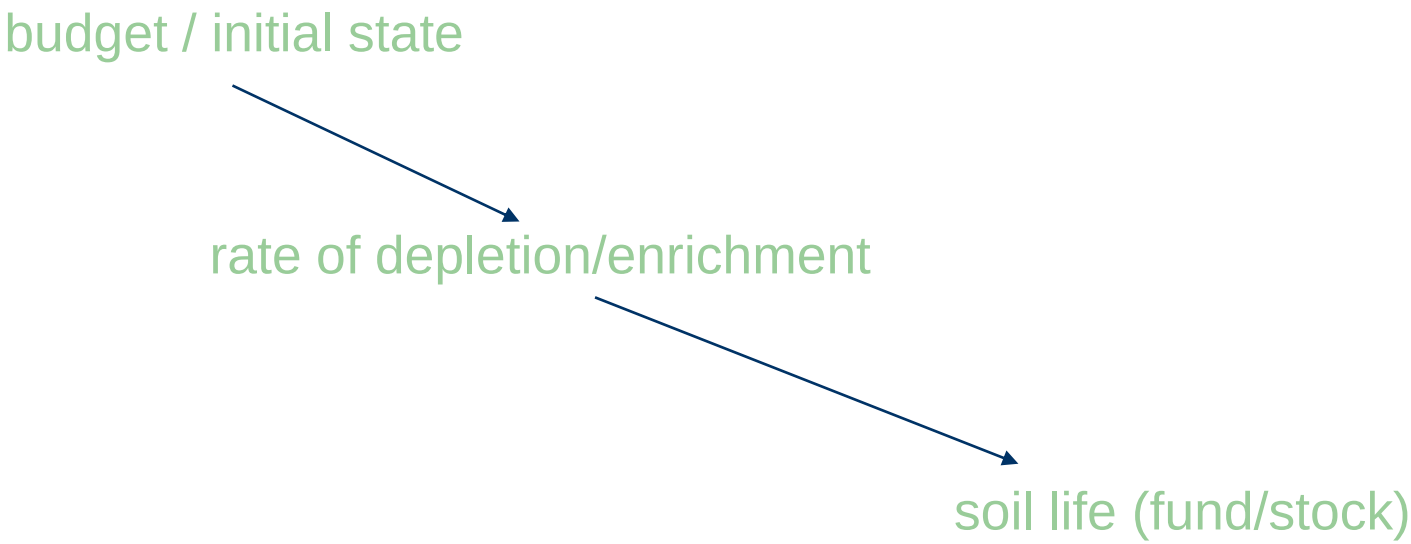
- **Soils as funds**:
  - provide services:
    - immaterial
    - involving components but do not compromise the fund
    - compromising the fund: soils as stocks
  - reproduce themselves
  - require different metrics for different services

Land evaluation as an ecological economics of soils

- Macroeconomic scale:
  - Integral Land Evaluation (Canada):
    - supply of various land units
    - supply of inputs to the LUTs (now and in the future)
    - demand for urban use and for agricultural, animal, and forest products
  - Consideration for other services:
    - soils providing conditions for higher-order ecosystem diversity
    - rare and threatened soils

Land evaluation as an ecological economics of soils

- Microeconomic scale:
  - initial state of soil
  - input-output budget of the LUS



Conclusions

Conclusions

- There is much common ground between Land Evaluation and Ecological Economics

- We need to emphasize:
  - soil surveys as accounting systems
  - soils as funds
  - need for different metrics
  - the socio-economic aspects of the LUTs
  - inputs and outputs of the LUS

Köszönöm !